



Vysus Group

Risk Management Consulting

Taking risk out
of the equation

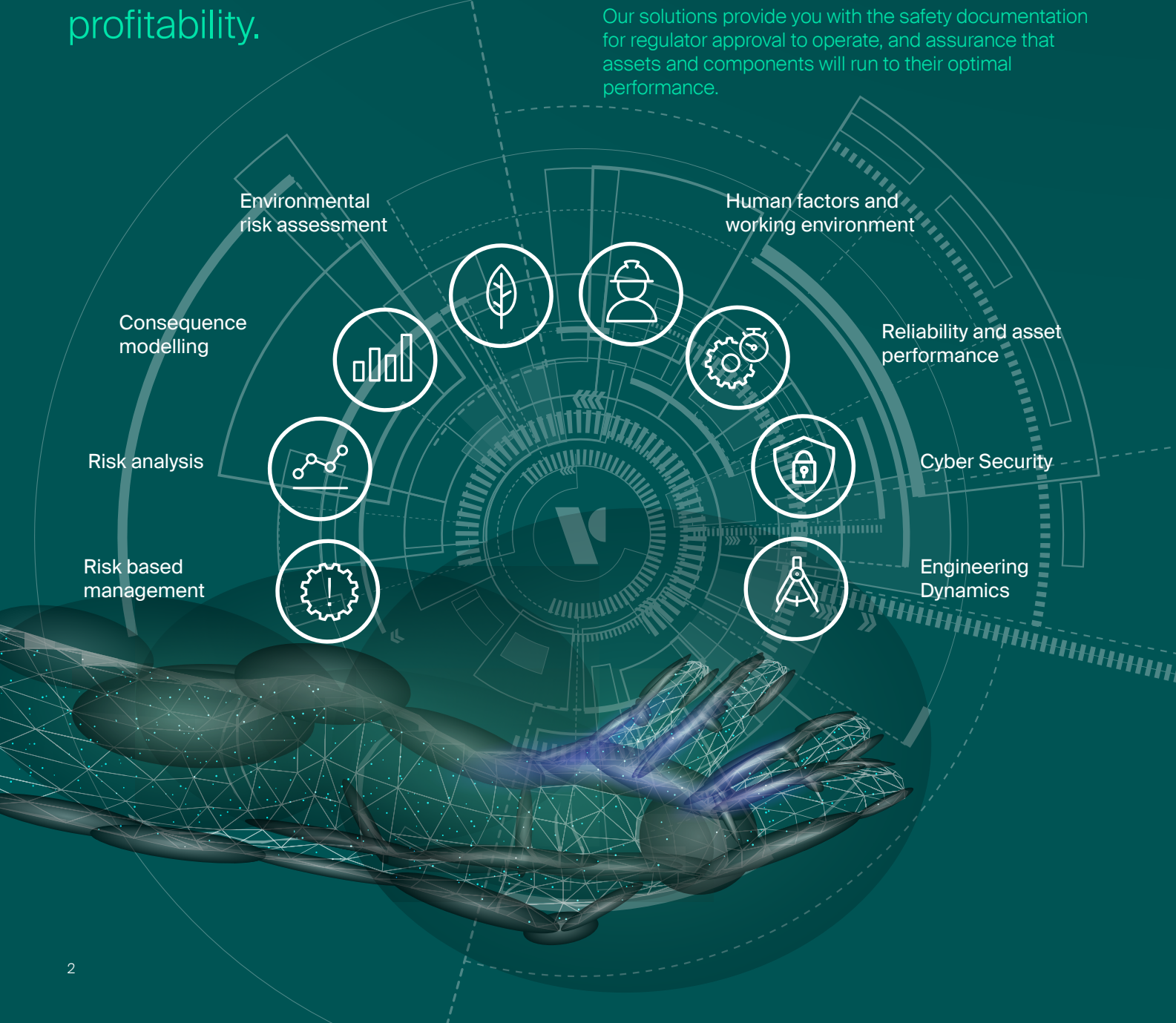
Vysus Group Risk Management Consulting

At Vysus Group, we understand that risk straddles every element of your operations and that managing risk is crucial to maintaining safe, reliable operations which also maximises profitability.

We support owners, operators and their supply chains of complex high-risk and capital intensive assets. We do this through the entire life-cycle by ensuring the right solutions are in place to control risk and prepare for emergencies.

Our risk management assessments and studies help you to achieve safe operation with major hazard and risk control throughout design, construction, operation and decommissioning. We do this by identifying health, safety and environmental conditions, evaluating possible accidental events and major risks, including their causes, consequences and uncertainties, and providing a basis for safe design, safe operation, emergency preparedness.

Our solutions provide you with the safety documentation for regulator approval to operate, and assurance that assets and components will run to their optimal performance.



Benefits



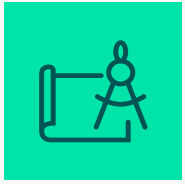
Documentation of safe design and operation for regulatory approval



Reduce the exposure to risks from accidents and associated potential litigation, loss of productivity and damage to reputation



Better decision support to verify how performance and efficiency goals can be met



Avoidance of failures with improved design solutions



Risk based management

We understand that effective risk management reduces exposure to risk from accidents and associated potential litigation, regulatory enforcement, loss of productivity and damage to public reputation.

Our risk management system not only ensures asset, public and personal risks are properly identified and controlled, but we also enhance your business performance by driving the process of continuous improvements.

We help identify, assess and control your organisations threats of risk from various sources including; financial and digital assets, strategic management, accidents and natural disasters.

Services include:

- Barrier Management
- Emergency preparedness
- Business continuity and resilience
- Incident/accident investigation
- Safety case
- Auditing
- Management system risk reduction - HSSEQ (Health, Safety, Security, Environment and Quality)
- Maintenance management
- RAMS (Reliability, Availability, Maintainability and Safety)
- ISA (Independent safety assessment)

Risk analysis

Through highly experienced analysts and state of the art physical digital methodology we provide deep understanding of the potential hazards and their associated risk and uncertainties.

We specialise in combining results from risk analysis with cost-benefit analysis to ensure optimal return is obtained from investments in risk-reducing measures and ALARP (As Low As Reasonably Practicable) documentation. We use human intelligence and state of the art technology to progress frontiers of safe design and operation.

We systematically identify and evaluate the possible accidental events, including their causes, consequences and uncertainties. Our risk analysis will provide the basis for efficient emergency preparedness planning.

Our state of the art consequence modelling capacity allows you to identify the unique risk drivers for your individual assets. Engineering insights derived from risk analysis are used in combination with traditional safety requirements and it is in this context that they are presented in a transparent and understandable manner.

Services and tools include:

- Quantitative Risk Analysis (QRA)
- Environmental Risk Analysis
- Risk and hazard mapping (3D and 2D)
- Risk Analysis (qualitative)
- Safety Case support
- Event Tree Analysis
- Hazard Identification (HAZID)
- Hazard and Operability Study (HAZOP)

Reliability and asset performance optimisation

We understand that you need cost-efficient design and operations, which is why we focus on reliability and regularity assessments which evaluate different design solutions.

We help optimise your asset and maintenance performance through reliability and regularity assessments. Providing an integrated optimisation solution or a stand-alone reliability/regularity model for your business ensuring goals are met, cost reduced and your assets optimised by insuring you have the best tools to deal with the risks.

Services include:

- Fault Tree Analysis
- Safety Integrity Level (SIL) and Layers of Protection Analysis (LOPA)
- Reliability, availability and maintainability (RAM)
- Failure mode, effect and criticality analysis (FMECA)
- Reliability centered maintenance (RCM)
- Uncertainty analysis

Human factors and working environment services

With ever increasing focus on cost-efficiency, sophistication of complex systems and rapid developments in advanced automation and autonomous technologies. Our human factors and working environment experts put the human first; We focus on the relationships between the user, equipment and environment to optimize system and human performance.

We can assist you in enhancing operational uptime and achieving regulatory compliance while minimising the potential for human error and adverse health effects.

Our services include:

- Human Reliability Assessment
- Control Room and Ergonomic Analyses
- Safety Culture Assessments
- Human Machine Interface (HMI) Assessment
- Safety Critical Task Analysis
- Human Factors in Safety Case Support
- Health Risk Assessments and Inspections
- Valve Criticality Analysis
- Working Environment

Consequence modelling

Understanding the consequence of a hazardous situation is the key to a safer environment. We use consequence modelling to predict accidents outcome and the potential impact on people, the environment and property. From simple engineering judgement to developing complex models of industrial plants or offshore assets, we'll listen to your needs and provide the most adequate consequence modelling tool, whether through a simplified model to the most advanced Computational Fluid Dynamic Software.

We carry out a wide range of assessment using a large portfolio of models, from recognised internal tools to commercial software.

Services include:

- Computational Fluid Dynamics (CFD)
- Large scale Geometry modelling
- Fire and explosion modelling
- Probabilistic analysis of fires and explosions
- Flammable and toxic gas dispersion modelling
- Ventilation modelling
- Wind Chill modelling
- Helideck availability study
- Structural response analysis
- Passive Fire Protection (PFP)



Engineering dynamics

We understand that the dynamic properties and response of an asset and the involved systems can make the difference between successful operation and costly downtime.

Our Engineering Dynamics services help prevent and resolve issues in relation to dynamics and vibration. We give design advice; perform independent analysis; carry out measurements during test, commissioning and operation; and troubleshoot in case dynamic behaviour is not optimal.

Vibration can be a major cause of asset downtime, as well as a significant safety concern. We focus on solving and preventing dynamics problems, in order to optimize performance and to increase uptime and safety.

Disciplines include:

- Fluid Dynamics and flow induced vibration
- Advanced Vibration Measurements
- Noise & Vibration
- Machinery Dynamics
- Structural dynamics
- Root Cause Analysis





Technical safety

Safe design and construction require a thorough understanding of the actual safety requirements, project activities, and the range of risk assessment methods. A wide range of safety aspects has to be specified and implemented in design, on the basis of results from risk assessments.

Based on each individual client's need, Vysus Group supports the project with highly qualified personnel who will accommodate the project's safety challenges.

Our main tasks are to implement the results from the risk analyses into specific design and construction solutions. We follow-up of contractors supplying safety systems, and testing of these systems in the commissioning phase.

Our services include:

- Layout
- Emergency shutdown
- Gas detection
- Fire detection
- Ignition source control
- HVAC
- Public address, alarm and emergency communication
- Emergency power and lighting
- Passive fire protection
- Firefighting systems
- Escape and evacuation
- Rescue and safety equipment

Cyber security

Threats to cyber assets are linked to the position of the asset owner in relation to competitors, and to the general security situations in the countries the organisation has operations, as well as geopolitical conditions. Recent reports in industry show that activities related to information gathering by information brokers, intelligence services and cyber criminals acting on behalf of business players have increased rapidly over the last few years.

We, at Vysus Group understand the risk environment of the digital world, whether that's from gaps in your systems or the risk of inexperienced personnel. Through our global network of cross functional teams we have the tools and experience to safeguard your business and make certain you are aware and resilient to any cyber threat that may come your way.

Our services include:

- Gap analysis
- Cyber awareness training
- ISO 27001 Information security implementation
- ISO 22301 Business continuity implementation
- Cyber risk assessment
- Third party assessment of industrial automation and control systems
- Cyber security management plan
- Cyber security requirement specification



Our expertise applied



Assurance services

The demand for assurance services to Railways are increasing as EU regulations and TSIs becomes mandatory in more and more projects. Vysus Group provide accredited assurance services as Notified Body and Assessment Body.

Our teams are closely monitoring the development of new standards and regulations to make sure our knowledge is at the forefront of industry trends. This enables us to deliver certificates, intermediate statements of verifications (ISV), technical files and reports in line with customer needs and the demand of national and international authorities.

Our teams are closely monitoring the development of new standards and regulations.



Avoiding a flammable gas cloud on an offshore platform

The platform had been operating for more than 25 years, and required repair work on the cellar deck. This caused a potential for dropped object on the pipeline below.

The client therefore required a quick decision on how low the pipeline pressure had to be to minimise a potential flammable gas cloud on the platform if the pipeline was to rupture to a dropped caisson.

Using our expertise in consequence modelling, and our knowledge of the installations risk picture we helped the client calculate the worst-case leak rate if the pipeline was to rupture and the size of the flammable gas cloud that could arise from a leak.

In only a few days we helped the client with urgent decision-making support enabling them to continue their required work on the cellar deck with minimum risk.

Using our expertise in consequence modelling, and our knowledge of the installations risk picture we helped the client.

Get in touch [in](#) [twitter](#)

info@vysusgroup.com

vysusgroup.com

For a full list of our locations,
please visit [here](#).